

## WHAT IS CLAIMED IS:

1. An apparatus for servicing both a wide area broadcasting and a local area broadcasting in a digital multimedia broadcasting system, the  
5 apparatus comprising:

means for transmitting program association tables and program map tables in a form of transport stream packets, wherein

each of the program association tables includes packet identifications of program map tables corresponding to at least one wide area broadcasting  
10 program and at least one local area broadcasting program, and

each of the program map tables includes detailed information about corresponding local area broadcastings.

2. The apparatus as claimed in claim 1, wherein each of the  
15 transport stream packets includes a packet header, and a payload, the packet header including a packet identification which indicates a broadcasting station and types of programs, each of the types of programs indicating at least one of video, audio, and text data.

20 3. The apparatus as claimed in claim 2, wherein each of the transport stream packets includes at least one of an adaptation field and the payload, existence or absence of which is represented by a flag included in the packet header.

25 4. The apparatus as claimed in claim 1, wherein the local area broadcasting program is set in advance to correspond to a specific local area.

5. The apparatus as claimed in claim 1, wherein each of the program association tables is transmitted through a common channel and each of  
30 the program map tables is transmitted through a broadcasting data channel.

6. The apparatus as claimed in claim 1, wherein each of the program association tables and the program map tables are transmitted through a broadcasting data channel.

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7. An apparatus for servicing both a wide area broadcasting and a local area broadcasting in a digital multimedia broadcasting system, the apparatus comprising:

means for transmitting program association tables and program map  
10 tables in a form of transport stream packets, wherein

each of the program association tables includes packet identifications of program map tables corresponding to at least one wide area broadcasting program and at least one local area broadcasting program, and

each of the program map tables includes detailed information and  
15 location identification codes for specific local area broadcasting programs.

8. The apparatus as claimed in claim 7, wherein each of the transport stream packets includes a packet header, and an adaptation field or a payload, each of the adaptation field and the payload having a variable length.

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9. The apparatus as claimed in claim 8, wherein the packet header includes a packet identification which indicates a broadcasting station and types of programs, each of the types of programs indicating at least one of video, audio, and text data.

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10. The apparatus as claimed in claim 8, wherein a location identification code of a local area broadcasting program is recorded in an adaptation field of each of the program map tables.

30 11. The apparatus as claimed in claim 8, wherein a flag included in

the packet header represents an existence or absence of the adaptation field or the payload.

12. The apparatus as claimed in claim 7, wherein each of the  
5 program association tables is transmitted through a common channel and each of the program map tables is transmitted through a broadcasting data channel.

13. The apparatus as claimed in claim 7, wherein each of the  
program association tables and the program map tables are transmitted through a  
10 broadcasting data channel.

14. A digital multimedia broadcasting receiver comprising:  
a display unit for receiving and displaying a wide area broadcasting or a  
local area broadcasting; and  
15 a control unit for receiving a local area broadcasting in a local area  
broadcasting receiving mode, the control unit controlling the display unit to  
display a local area broadcasting program in a correct mode according to whether  
the wide area broadcasting is being received or not.

20 15. The digital multimedia broadcasting receiver as claimed in claim  
14, wherein the control unit performs operations comprising:  
determining whether the digital multimedia broadcasting receiver is in  
the local area broadcasting receiving mode or not;  
examining a program association table, determining whether there exists  
25 or not a local area broadcasting currently being serviced, and controlling the  
display unit to display information of local area broadcastings currently being  
serviced, when the digital multimedia broadcasting receiver is in the local area  
broadcasting receiving mode; and  
enabling a specific local area broadcasting to be received when a  
30 selection of the specific local area broadcasting by a user is detected.

16. The digital multimedia broadcasting receiver as claimed in claim 15, wherein

the program association table includes packet identifications of program map tables corresponding to at least one wide area broadcasting program and at least one local area broadcasting program, and

each of the program map tables includes detailed information about the local area broadcastings including the specific local area broadcasting.

17. The digital multimedia broadcasting receiver as claimed in claim 16, wherein:

the control unit detects packet identification of a program map table for a program which the user requires to view from the program association table and packet identifications of video, audio, or text data from the detected program map table; and

the digital multimedia broadcasting receiver further comprises a demultiplexing unit for extracting the program map table and the video, audio, or text data and transmitting them to the control unit.

18. The digital multimedia broadcasting receiver as claimed in claim 14, wherein the control unit performs operations comprising:

examining a kind of local area broadcasting program data in order to determine a display type of the local area broadcasting program; and

displaying the local area broadcasting program data when the local area broadcasting program data are data of a first kind and no wide area broadcasting program data of the first kind are received or when the local area broadcasting program data are data of the first kind and local area broadcasting program data of another kind are not being displayed while wide area broadcasting program data of the first kind are being received.

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19. The digital multimedia broadcasting receiver as claimed in claim 18, wherein the first kind is text and said another kind is video or audio.

20 A digital multimedia broadcasting receiver for receiving a wide area broadcasting or a local area broadcasting, the digital multimedia broadcasting receiver comprising:

a display unit for displaying a wide area broadcasting or a local area broadcasting;

a memory for storing a location identification code; and

10 a control unit for determining whether the digital multimedia broadcasting receiver is in the local area broadcasting receiving mode or not, detecting detailed information and a location identification code of the local area broadcasting from program specific information when the digital multimedia broadcasting receiver is in the local area broadcasting receiving mode, comparing  
15 the detected location identification code with the location identification code stored in the memory, and controlling the display unit to receive and display the local area broadcasting when the detected location identification code coincides with the location identification code stored in the memory.

20 21. The digital multimedia broadcasting receiver as claimed in claim 20, wherein the location identification code stored in the memory can be input by a user or automatically set according to a location of the digital multimedia broadcasting receiver.

25 22. The digital multimedia broadcasting receiver as claimed in claim 20, wherein

the program specific information includes a program association table and a program map table, and

the program association table includes packet identifications of program  
30 map tables corresponding to at least one wide area broadcasting program and at

least one local area broadcasting program.

23. The digital multimedia broadcasting receiver as claimed in claim 22, further comprising:

5 a demultiplexing unit for extracting a program map table of a program which a user requires to view from the program association table and transmits the program map table to the control unit, wherein  
the control unit detects packet identifications of video, audio, or text data of the program which the user requires to view from the detected program map  
10 table and transmits the detected packet identifications to the demultiplexing unit.

24. A method of receiving a local area broadcasting by a digital multimedia broadcasting receiver, the method comprising the steps of:

(1) examining whether the digital multimedia broadcasting receiver is in  
15 a local area broadcasting receiving mode or not;

(2) examining a program association table to determine whether or not there exists a local area broadcasting currently being serviced, when the digital multimedia broadcasting receiver is in the local area broadcasting receiving mode;

20 (3) displaying information of local area broadcastings currently being serviced, when there exists at least one local area broadcasting currently being serviced; and

(4) receiving and displaying a specific local area broadcasting when selection of the specific local area broadcasting by a user is detected.

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25. The method as claimed in claim 24, further comprising :

displaying the specific local area broadcasting as it is when a wide area broadcasting is not being viewed, after reception of the specific local area broadcasting.

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26. The method as claimed in claim 24, further comprising:  
when a wide area broadcasting is being viewed, determining kinds of the  
specific local area broadcasting and the wide area broadcasting and determining a  
display type for the specific local area broadcasting before displaying the specific  
5 local area broadcasting.

27. The method as claimed in claim 24, wherein, in step (3), the  
information of local area broadcastings currently being serviced comprises titles  
of local area broadcasting programs.

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28. The method as claimed in claim 24, wherein, in step (3), the  
information of local area broadcastings currently being serviced comprises names  
of corresponding local areas.

15 29. The method as claimed in claim 24, wherein the local area  
broadcastings are set in advance to correspond to predetermined local areas,  
respectively.

20 30. The method as claimed in claim 29, further comprising the steps  
of:

comparing a location corresponding to a local area broadcasting being  
currently serviced with a location set in the digital multimedia broadcasting  
receiver; and

displaying information of the local area broadcasting when the location  
25 corresponding to the local area broadcasting coincides with the location set in the  
digital multimedia broadcasting receiver.

31. A method of receiving a local area broadcasting by a digital  
multimedia broadcasting receiver, the method comprising the steps of:

30 (1) examining whether the digital multimedia broadcasting receiver is set

to come into a local area broadcasting receiving mode or not during reception of a wide area broadcasting;

(2) examining a packet corresponding to a program association table from a received transport stream to determine whether or not there exists a local  
5 area broadcasting currently being serviced, when setting of the local area broadcasting receiving mode is detected;

(3) when there exists a local area broadcasting currently being serviced, acquiring a program map table of the local area broadcasting from the program association table and checking whether a location identification code of the local  
10 area broadcasting coincides with a stored location identification code or not; and

(4) decoding signals of the local area broadcasting and displaying the local area broadcasting when the location identification code of the local area broadcasting coincides with the stored location identification code.

15           32.     The method as claimed in claim 31, further comprising:  
displaying absence of a corresponding local area broadcasting when the location identification code of the local area broadcasting does not coincide with the stored location identification code.

20           33.     The method as claimed in claim 31, wherein the location identification code is recorded on an adaptation field of the packet, which has a variable length.

              34.     The method as claimed in claim 32, wherein the location  
25 identification code is recorded on an adaptation field of the packet, which has a variable length.

              35.     A method of receiving and displaying a local area broadcasting  
30 by a digital multimedia broadcasting receiver, the method comprising the steps



of:

- (1) examining a kind of received local area broadcasting program data;
- (2) checking whether there exists or not wide area broadcasting program data which are of the same kind as the kind of the local area broadcasting program data; and
- (3) displaying the local area broadcasting program data when there exists no wide area broadcasting program data of the same kind.

36. The method as claimed in claim 35, wherein the kind of the local area broadcasting program data is video.

37. The method as claimed in claim 35, wherein the kind of the local area broadcasting program data is audio.

38. The method as claimed in claim 35, wherein the kind of the local area broadcasting program data is text.

39. The method as claimed in claim 35, further comprising:  
when the kind of the local area broadcasting program data is a first kind and there exists a first kind of wide area broadcasting program data, checking whether the first kind of local area broadcasting program data is being currently displayed or not, so that the local area broadcasting program data is not displayed when the first kind of wide area broadcasting program data is being currently displayed.

40. The method as claimed in claim 35, wherein the local area broadcasting program data are displayed when the local area broadcasting program data are data of a first kind and no wide area broadcasting program data of the first kind exist or when the first kind of the local area broadcasting program data are not being currently displayed while wide area broadcasting

program data of the first kind exist.

41. The method as claimed in claim 39, wherein the first kind is text.

5 42. The method as claimed in claim 40, wherein the first kind is text.

43. A method of receiving a local area broadcasting by a digital multimedia broadcasting receiver, the method comprising the steps of:

(1) examining whether the digital multimedia broadcasting receiver is in  
10 a local area broadcasting receiving mode or not;

(2) examining program specific information to determine whether or not there exists a local area broadcasting currently being serviced, when the digital multimedia broadcasting receiver is in the local area broadcasting receiving mode;

15 (3) displaying information of local area broadcastings currently being serviced, when there exists at least one local area broadcasting currently being serviced; and

(4) receiving and displaying a specific local area broadcasting when selection of the specific local area broadcasting by a user is detected.

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44. The method as claimed in claim 43, wherein the program construction information is included in a program association table.

45. The method as claimed in claim 44, wherein the local area  
25 broadcasting program is set in advance to correspond to a specific local area.

46. The method as claimed in claim 45, further comprising the steps of:

comparing a location corresponding to a local area broadcasting being  
30 currently serviced with a location set in the digital multimedia broadcasting

receiver; and

displaying information of the local area broadcasting when the location corresponding to the local area broadcasting coincides with the location set in the digital multimedia broadcasting receiver.

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47. The method as claimed in claim 43, wherein the program construction information is included in a program association table and a program map table

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48. The method as claimed in claim 43, further comprising:

when there exists a local area broadcasting currently being serviced, acquiring a program map table of the local area broadcasting from the program association table and checking whether a location identification code of the local area broadcasting coincides with a stored location identification code or not

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